DOCKET NO.: M0925.70139US00

JAN 1 2 2004

## THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

Richard R. Schrock et al.

Serial No:

10/646,355

Confirmation, No.:

8608

Filed:

August 22, 2003

For:

LIVING OLEFIN POLYMERIZATION PROCESS

Examiner:

Not Yet Assigned

Art Unit:

1723

# **CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the day of January, 2004.

Tina Hanifin

Commissioner For Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Transmitted herewith are the following documents:

- [X] Information Disclosure Statement
- [X] PTO Form 1449
- [X] Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 720-3500, Boston, Massachusetts.

A check is not enclosed. If a fee is required, the Commissioner is hereby authorized to charge Deposit Account No. 23/2825. A duplicate of this sheet is enclosed.

Respectfully submitted,

By:

Timothy J. Oyer, Ph.D., Reg. No.: 36,628

Wolf, Greenfield & Sacks, P.C.

600 Atlantic Avenue

Boston, Massachusetts 02210-2211

Telephone: (617)720-3500

**xNDDx** 



Attorney's Docket No.: M00925.70139US00 TJO

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

Richard R. Schrock et al.

Serial No:

10/646,355

Confirmation No:

8608

Filed:

August 22, 2003

For:

LIVING OLEFIN POLYMERIZATION PROCESS

Examiner:

Not Yet Assigned

Art Unit:

1723

## CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the \_\_\_\_\_ day of January, 2004.

Signature

Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

# STATEMENT FILED PURSUANT TO THE DUTY OF DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicants request consideration of this Information Disclosure Statement.

#### PART I: Compliance with 37 C.F.R. §1.97

A. This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case. No fee or certification is required.

## PART II: Information Cited

- A. The Applicants hereby make of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.
- B. The Applicants hereby make the following additional information of record in the above-identified application.

Serial No.: 10/646,355 - 2 - Art Unit: 1723

Confirmation No. 8608

## PART III: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

- 1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
- 2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
- 3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicants, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

- 3 -Art Unit: 1723 Confirmation No. 8608

An early and favorable action is hereby requested.

Respectfully submitted, Richard R. Schrock et al., Applicants

By:

Timothy J. Oyer, Ph.D., Reg. No. 36,628 WOLF, GREENFIELD & SACKS, P.C.

600 Atlantic Avenue

Boston, Massachusetts 02210-2211

Telephone: (617) 720-3500

Docket No. M00925/70139 TJO

Date: January <u>9</u>, 2004

FORM PTO-1449/A and B (Modified)

INFORMATION DISCLOSURE
STATEMENT PREPLICANT

O JAN 12 2004

Sheet

APPLICATION NO.: 10/646,355

APPLICATION NO.: 10/646,355

APPLICATION NO.: 10/646,355

TJO

CONFIRMATION NO.: 8608

APPLICANT: Richard R. Schrock et al.

GROUP ART UNIT: 1723

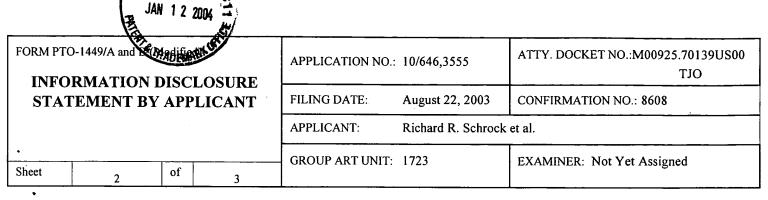
EXAMINER: Not Yet Assigned

3

TRADEM **U.S. PATENT DOCUMENTS** U.S. Patent Document Date of Publication or of issue Cite Name of Patentee or Applicant of Cited Examiner's of Cited Document Initials No. Kind Document Number MM-DD-YYYY Code \* 4,480,075 Willis 10/30/1984 \* 4,681,956 Schrock 07/21/1987 4,752,597 Turner 06/21/1988 4,791,180 Turner 12/13/1988 4,882,406 Cozewith et al. 11/21/1989 \* 4,959,436 Cozewith et al. 09/25/1990 \* 5,026,798 Canich 06/25/1991 \* 5,079,205 Canich 01/07/1992 5,502,124 Crowther et al. 03/26/1996 \* 5,504,049 Crowther et al. 04/02/1996 5,196,491 Cho et al. 03/23/1993 \* 5,281,368 01/25/1994 Dias et al. 5,318,935 Canich et al. 06/07/1994 5,391,629 Turner et al. 02/21/1995 5,399,626 Erickson et al. 03/21/1995 5,422,409 Brekner et al. 06/06/1995 \* 5,427,991 Turner 06/27/1995 5,438,102 Brandes et al. 08/01/1995 \* 5,444,145 Brandt et al. 08/22/1995 \* 5,475,075 Brandt et al. 12/12/1995 5,476,915 Shea et al. 12/19/1995 5,489,651 Novak et al. 02/06/1996 5,599,761 Turner 02/04/1997 \* 5,602,219 Aulbach et al. 02/11/1997 \* 5,610,253 Hatke et al. 03/11/1997 5,612,428 Winter et al. 03/18/1997 \* 5,621,126 Canich et al. 04/15/1997 \* 5,635,573 Harrington et al. 06/03/1997 5,693,730 Kuber et al. 12/02/1997

EXAMINER	DATE CONSIDERED

<sup>\*</sup>a copy of this reference is not provided as it was previously cited by or submitted to the office in one or more of prior applications, Serial No. 09/935,775, filed August 23, 2001, Serial No. 09/307,241, filed March 4, 1999, or Serial No. 08/843,161, filed April 11, 1997, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).



#### **U.S. PATENT DOCUMENTS**

Examiner's Cite		U.S. Patent Docum	nent	Name of Patentee or Applicant of Cited	Date of Publication or of issue	
Initials	No. Number Kind Document Code	Document	of Cited Document MM-DD-YYYY			
	*	5,698,645		Weller et al.	12/16/1997	
	*	5,723,560		Canich	03/03/1998	
	*	5,741,868		Winter et al.	04/21/1998	
	*	5,763,556		Shaffer et al.	06/09/1998	
·	*	5,789,474		Lu et al.	08/04/1998	
	*	5,840,808		Sugimura et al.	11/24/1998	
	*	5,889,128		Schrock et al.	03.30.1999	
	*	6,255,419	B1	Imuta et al.	07.03.2001	
	*	6,271,325	B1	McConville et al.	08/07/2001	
	*	6,316,555	B1	Schrock et al.	11.13.2001	
	*	US2001/0041778	A1	McConville et al.	11/15/2001	

#### FOREIGN PATENT DOCUMENTS

				FUREIC	5N PATENT DOCUMENTS		
Examiner's	Cite	Foreign Patent Document			Name of Patentee or Applicant of Cited	Date of Publication of	Translation
Initials		Document (not necessary)	Cited Document MM-DD-YYYY	(Y/N)			
	*	EP	0 893 454	A1	Mitsui Chemicals, Inc.	01/27/1999	
	*	JР	8081415A		UBE IND LTD (UBEI)	03.26.1996	
	*	WO	91/12285		Exxon Chemical Patents, Inc.	08/22/1991	
	*	WO	92/12162		Exxon Chemical Patents, Inc.	07/23/1992	
	*	wo	94/21700		Exxon Chemical Patents, Inc.	09/29/1994	
	*	WO	97/42197		Societe de Conseils de Recherches et D'Applications Scientifiques	11/13/1997	
	*	wo	98/46651		Massachusetts Institute of Technology	10/22/1998	
<u> </u>	*	wo	00/69922	A2	UNIVATION TECHNOLOGIES, LLC	11.23.2000	

\*a copy of this reference is not provided as it was previously cited by or submitted to the office in one or more of prior applications, Serial No. 09/935,775, filed August 23, 2001, Serial No. 09/307,241, filed March 4, 1999, or Serial No. 08/843,161, filed April 11, 1997, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

EXAMINER	DATE CONSIDERED
<del></del>	

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

JAN 12	2004					
FORM 1449/A B (Modified)  INFORMATION DISCLOSURE			APPLICATION NO.: 10/646,355		ATTY. DOCKET NO.:M0925.70139US00 TJO	
STATEMENT BY APPLICANT			FILING DATE:	August 22, 2003	CONFIRMATION NO.: 8608	
				APPLICANT:	Richard R. Schrock	k et al.
Sheet	3	of	3	GROUP ART UNIT:	1723	EXAMINER: Not Yet Assigned

OTHER ART — NON PATENT LITERATURE DOCUMENTS

<u> </u>	· · · · · · · · · · · · · · · · · · ·	OTHER ART — NON PATENT LITERATURE DOCUMENTS	
Examiner's	Cite	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item	Translation
Initials	, , , , , , , , , , , , , , , , , , ,		(Y/N)
	L	publisher, city and/or country where published.	
	*	GUERIN et al., "Conformationally Rigid Diamide Complexes: Synthesis and Structure of Titanium(IV) Alkyl	
		Derivatives", Organometallics, Vol. 15, No. 24, 1996, pp. 5085-5089.	
_	*	GUERIN, F. et al., "Synthesis, Structure, and Reactivity of Zirconium Alkyl Complexes Bearing Ancillary	1
	İ	Pyridine Diamide Ligands," Organometallics 1998, Vol. 17, No. 23, pp. 5172-5177.	
	*	BAUMANN et al., "Synthesis of Titanium and Zirconium Complexes that Contain the Tridentate Diamido	
		Ligand, [((t-Bu-d <sub>6</sub> )N-o-C <sub>6</sub> H <sub>4</sub> ) <sub>2</sub> O] <sup>2</sup> [NON] <sup>2</sup> ) and the Living Polymerization of 1-Hexene by Activated	
		[NON]ZrMe <sub>2</sub> ", J. Am. Chem. Soc., Vol. 119, No. 16, 1997, pp. 3830-3831.	1
	*	CLOKE et al., "Zirconium Complexes Incorporating the New Tridentate Diamide Ligand	
		$[(Me_3Si)N\{CH_2CH_2N(SiMe_3)\}_2]^2(L)$ ; the Crystal Structures of $[Zr(BH_4)_2L]$ and $[ZrCl\{CH(SiMe_3)_2\}L]^n$ , J. Am.	
		Chem. Soc. Dalton Trans., 1995, pp. 25-30.	
	*	CLARK et al., "Titanium(IV) complexes incorporating the aminodiamide ligand	
		[(SiMe <sub>3</sub> )N{CH <sub>2</sub> CH <sub>2</sub> N(SiMe <sub>3</sub> )} <sub>2</sub> ] <sup>2</sup> · (L); the X-ray crystal structures of [TiMe <sub>2</sub> (L)] and [TiCl{CH(SiMe <sub>3</sub> ) <sub>2</sub> }(L)]",	
		Journal of Organometallic Chemistry, Vol. 501, 1995, pp. 333-340.	
	+	HORTON et al., "Cationic Alkylzirconium Complexes Based on a Tridentate Diamide Ligand: New Alkene	
***		Polymerization Catalysts", Organometallics, Vol. 15, No. 12, 1996, pp. 2672-2674.	
	*	YASUO, "Production of Alkenecarboxylic Acid Ester", Patent Abstracts of Japan, Publication No. 08081415,	
		Publication Date. March 26, 1996.	
•	*	DI SILVESTRO et al., "Polymerization of propene with enantiomorphic site catalysts, 1 A statistical analysis",	
		Macromol. Chem. Phys., Vol. 197, 1996, pp. 3209-3228.	<u> </u>
	*	SCOLLARD et al., "Living Polymerization of α-Olefins by Chelating Diamide Complexes of Titanium", J. Am.	
•		Chem. Soc., Vol. 118, No. 41, 1996, pp. 10008-10009.	
	*	STOVENG et al., "Influence of rotation between agostic structures on ethene interaction with a zirconocene	
		polymerization site", Journal of Organometallic Chemistry, Vo. 519, 1996, pp. 205-208.	
	*	BEI, X. et al., "Synthesis, Structures, Bonding, and Ethylene Reactivity of Group 4 Metal Alkyl Complexes	
		Incorporating 8-Quinolinolato Ligands," Organometallics 1997, Vol. 16, No. 15, pp. 3282-3302.	
·	*	REPO, T. et al., "Ethylenebis(salicylideneiminato)zirconium Dichloride: Crystal Structure and Use as a	
		Heterogeneous Catalyst in the Polymerization of Ethylene," <i>Macromolecules</i> 1997, Vol. 30, No. 2, pp. 171-175.	] [

<sup>\*</sup>a copy of this reference is not provided as it was previously cited by or submitted to the office in one or more of prior applications, Serial No. 09/935,775, filed August 23, 2001, Serial No. 09/307,241, filed March 4, 1999, or Serial No. 08/843,161, filed April 11, 1997, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

EXAMINER	DATE CONSIDERED

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.